WUSATOWSKI, Z.

POL.

3

3218 669.14.018.294/.201 : 669-131 : 669-17

Wusatowski Z. **The Influence of Transformations in Intercrystalline Substances upon the Properties of Mild Carbon Steels.**

„Wpływ przemian substancji międzykrystalicznych na własność miękkich stali węglowych", (Prace Inst. Mechan. No. 8), Warszawa, 1953, PWT, 81 pp., 128 figs., 10 tabs.

The author's work shows that mild carbon steels reveal the natural trend of cementite and iron-nitrides to separate, on the boundaries of the grains, in the form of intercrystalline substances; thus they are responsible for a corresponding modification of the properties of mild steel (the occurrence of flow lines, two-fold yield point and other features). Other phases in the separation of these components must be considered as being of a rather temporary, transient nature. The belief prevalent hitherto was that no further transformation) occur in soft steel below Ac_1. It has, moreover, been proved that the cycle of transformation continues until the steel reaches the temperature of the surrounding atmosphere. Such transformations are, at times, responsible for a radical modification of the properties of steel.

WUSATOWSKI, Z.

Journal of Applied Chemistry
April 1954
Industrial Inorganic Chemistry

Stress formation and mechanism of primary plastic flow in mild steel. Z. Wusatowski (*Hutnik*, 1953, 20, No. 6, 191—194; *J. Iron Steel Inst.*, 1954, 176, 121).—The mechanism of stress formation in grains and in the intergranular network, initial plastic deformation in the cold state, and the influence of the intercrystalline material on deformation beyond the plastic limit of a mild steel are discussed.
R. B. CLARKE.

WIATOWSKI, Z.

J. of the Iron & Steel Inst. Feb 1964, Metallography

Precipitation of Cementite from Solid Solution and Precipitation Hardening of Mild Steel. Z. Wiatowski (Hutnik, 1953, 20, (7), 229-233). [In Polish]. Changes in the mechanical properties of mild steel due to the precipitation of oxides and cementite from solid so[illegible]ns are discussed.

WUSATOWSKI, Z.

"Role of resilience in cold rolling" (P. 218). HUTNIK (Panstwowe Wydawnictwa Techniczne) Katowice, Vol. 20, No. 10, Oct. 1953.

SO: East European Accessions List, Vol 3, No. 8, Aug 1954.

WUSATOWSKI, Z.

IV

Journal of Applied Chemistry
April 1954
Industrial Inorganic Chemistry

Precipitation of nitrides and precipitation hardening of mild steel after cold deformation. Z. Wusatowski (*Hutnik, Poland*, 1953 1935, 20, 250—254; *J. Iron Steel Inst.*, 1954, 178, 114).—The influence of the pptn. of nitrides on the mechanical properties of steel, ageing after cold plastic deformation, complex ageing, and blue brittleness, the properties of pure iron and single iron crystals, and the influence of hydrogen reduction on the properties of mild steel are discussed.

R. B. CLARKE.

Chem. Abs.
Vol. 48, No. 8
Apr. 25- 1954

WUSATOWSKI, Z.

Journal of the Iron and Steel Institute
Vol. 176 Part 3
Mar. 1954
Corrosion

Recrystallization and the Intercrystalline Corrosion of Mild Steel. Z. Wusatowski. (*Hutnik* (Poland), 1953, 20, (9), 275–278). [In Polish]. The influence of cold and hot rolling and subsequent heat-treatment on the recrystallization of steel and its relation to the appearance of an intercrystalline phase is outlined. The causes of intercrystalline corrosion and the influence of intercrystalline phase on the mechanism of deformation are discussed.—Y. G.

(1) Met

Chem. Abs.
Vol. 48, No. 8
Apr. 25, 1954

WUSATOWSKI, Z.

17891* (Possibilities in the Mathematical Determination of the Flow Process in Standard Rolled Shapes.) Möglichkeiten der mathematischen Bestimmung des Fliessvorganges in regulären Walzprofilen. Z. Wusatowski and B. Wusatowski. *Metallurgie und Giesserei*, v. 4, no. 7, July 1954, p. 295-307.

Simplified method computes applied pressure and flow of steel in lateral and longitudinal directions; also designs new rolls. Diagrams, nomograms, tables. 10 ref.

WUSATOWSKI, Z.

3

POL.

Comparison of Methods for Calculating the Roll Pressure in Hot Rolling. Z. Wusatowski and S. Bala (*Prace Inst. Mutat. Hutn.*, 1954, 6, (3), 120–132).—[In Polish]. A critical survey of the methods for calculating the roll pressure in hot rolling is presented. The methods of Tselikov, Trinks, Siebel, Ekelund, Orowan and Pascoe, and Goleji are discussed, and their suitability for appn. to particular rolling practices is ascertained by comparing the calculated results with experimental data available in the German and Russian literature. Only mills for rolling of thin and thick sheets and granule rolling are considered. 12 ref.—S. K. L.

M 8I

WUSATOWSKI, Z.

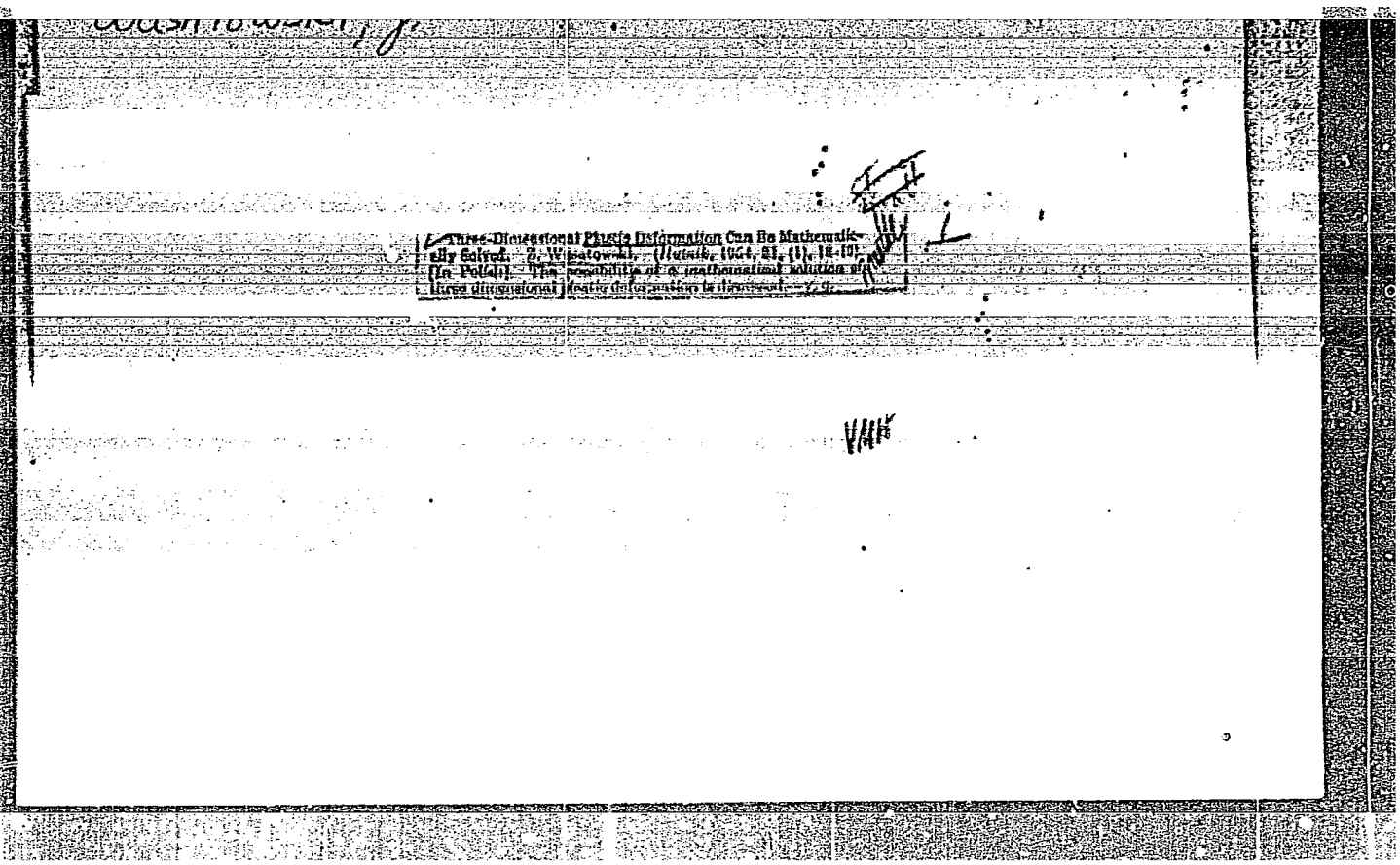
POL

The Determination of Corrections for the Calculation of Elongation and Spread in the Hot Rolling of Alloy Steels. Z. Wusatowski and E. Sawiak. (*Prace Instytutow Ministerstwa Hutnictwa*, 1956, 6, (5) 217-229). [In Polish]. In order to adapt Wusatowski's formula for determining the elongation and spread of alloy steels during rolling, 13 types of steels (mainly Cr Ni) were tested under normal rolling-mill conditions. On the basis of the results obtained the formula was modified by introducing a correction factor d, the values of which can be read off from the graphs given in the paper. With this modified formula other corrections for the effect of temperature, rolling speed, and the state of roll surfaces are unnecessary.—V. G.

WUSATOWSKI, Z.

Some possibilities for the development of steel metallurgy. p. 75.
(WIADOMOSCI HUTNICZE, Vol. 10, No. 3, Mar. 1954, Stalinogrod, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.



Three-Dimensional Physis Information Can Be Mathematically Solved. Z. Wiatrowski. (Matematyka, 1964, 23, (1), 18-19). [In Polish]. The possibility of a mathematical solution of three dimensional plastic deformation is discussed. — V. G.

WUSATOWSKI, Z.

Measuring the pressure at the arch of contact in hot-and cold-rolling. p.48.
HUTNIK (Panstwowe Wydawnictwa Techniczne) Katowice
Vol. 21, no. 2, Feb. 1954

So. East European Accessions List Vol. 5, No. 9 September 1956

WUSATOWSKI, Z.

Graphical Determination of the Dimensions of the Stock and Subsequent Roll Passes for Cold Rolling. Z. Wusatowski. (*Biuletyn Informacyjny*, 5, (6), 21–23; *Hutnik* (Poland), 1954, 21, (6)). [In Polish]. A graph for the calculation of dimension of the stock, subsequent roll passes, and finished product, for the cold rolling of strips and sheet is given.—v. n.

WISATOWSKI

POL

8110* - Improvements in Continuous Casting and Direct Rolling of Steel. Postępy odlewania ciągłego i walcowania bezpośredniego stali. (Polish.) Z. Wusatowski. Hutnik, v. 21, no. 11, Nov. 1954, p. 370-375.
Status of the process in Poland, Russia and the United States. Micrographs, tables, diagrams. 36 ref.

WWOSATOWSKI, Z.

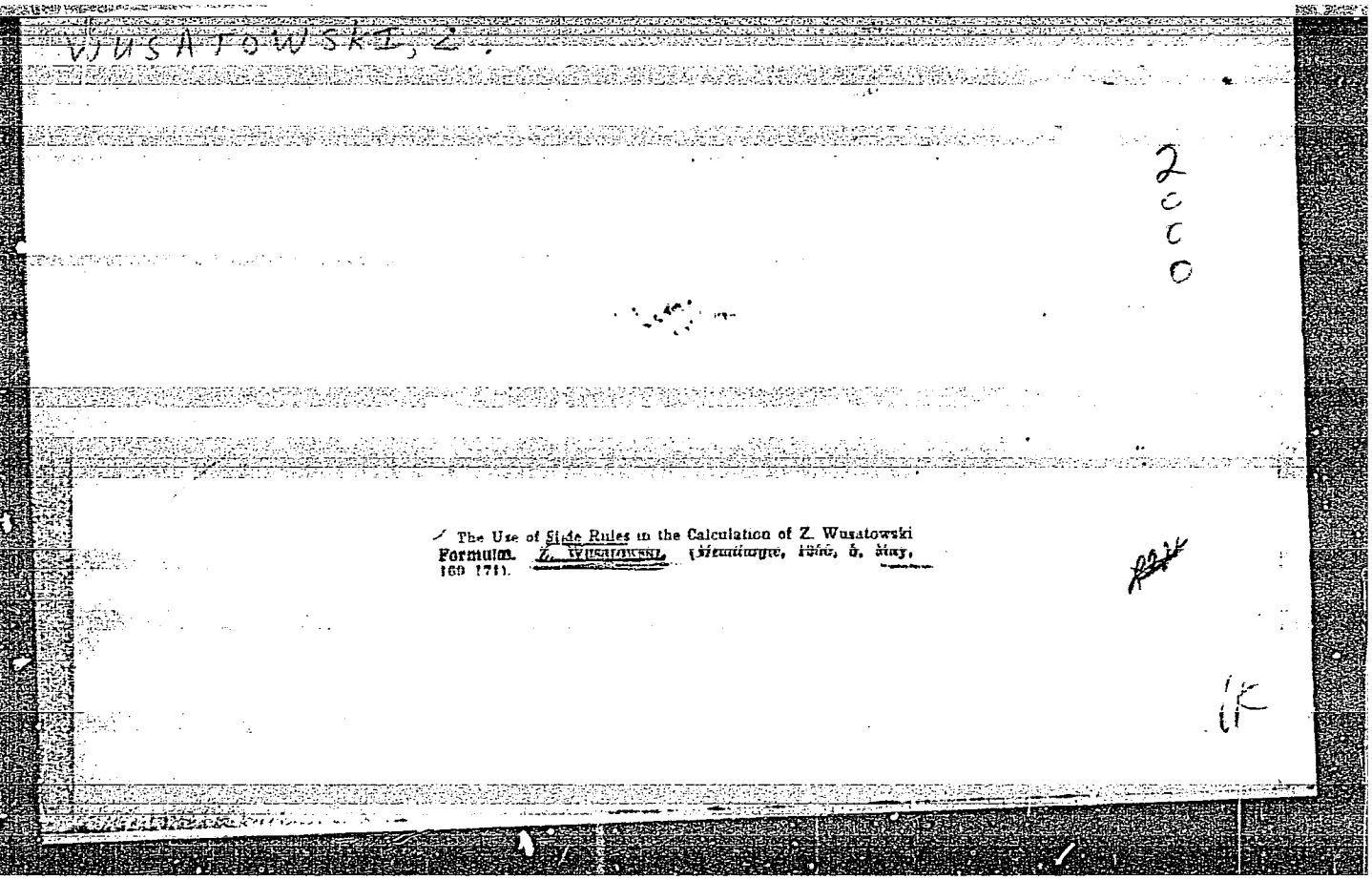
POL

12001* Position of the Neutral Angle in Hot and Cold Rolling Processes. Kąt płaszczyzny podziałowej w procesie walcowania na gorąco i na zimno. (Polish.) Zygmunt Wusatowski. *Archiwum Górnictwa i Hutnictwa*, v. 3, no. 1, 1955, p. 11-42.

Analysis, verification, and amplification of various formulas for the neutral angle; equations for homogeneous compression and slipping friction along contacting arc. Formulas recommended for cold rolling without tension and for hot rolling without spreading. Tables, graphs. 16 r.

Wusatowski, Z.

The Position of the Flow Point in Hot and Cold Rolling. Z. Wusatowski. (*Metallurgie*, 1955, 5, Mar., 103–114). Various methods of calculating the angle are described in detail. In cold rolling, the Orowan or Bland and Ford methods are recommended, or, where speed is more important than accuracy, the Pawlow, Ekelund, or Siebel methods. In hot rolling, the Orowan and Pascoe methods are to be preferred to the Pawlow method.—I. J. I.



WUSATOWSKI, Z.

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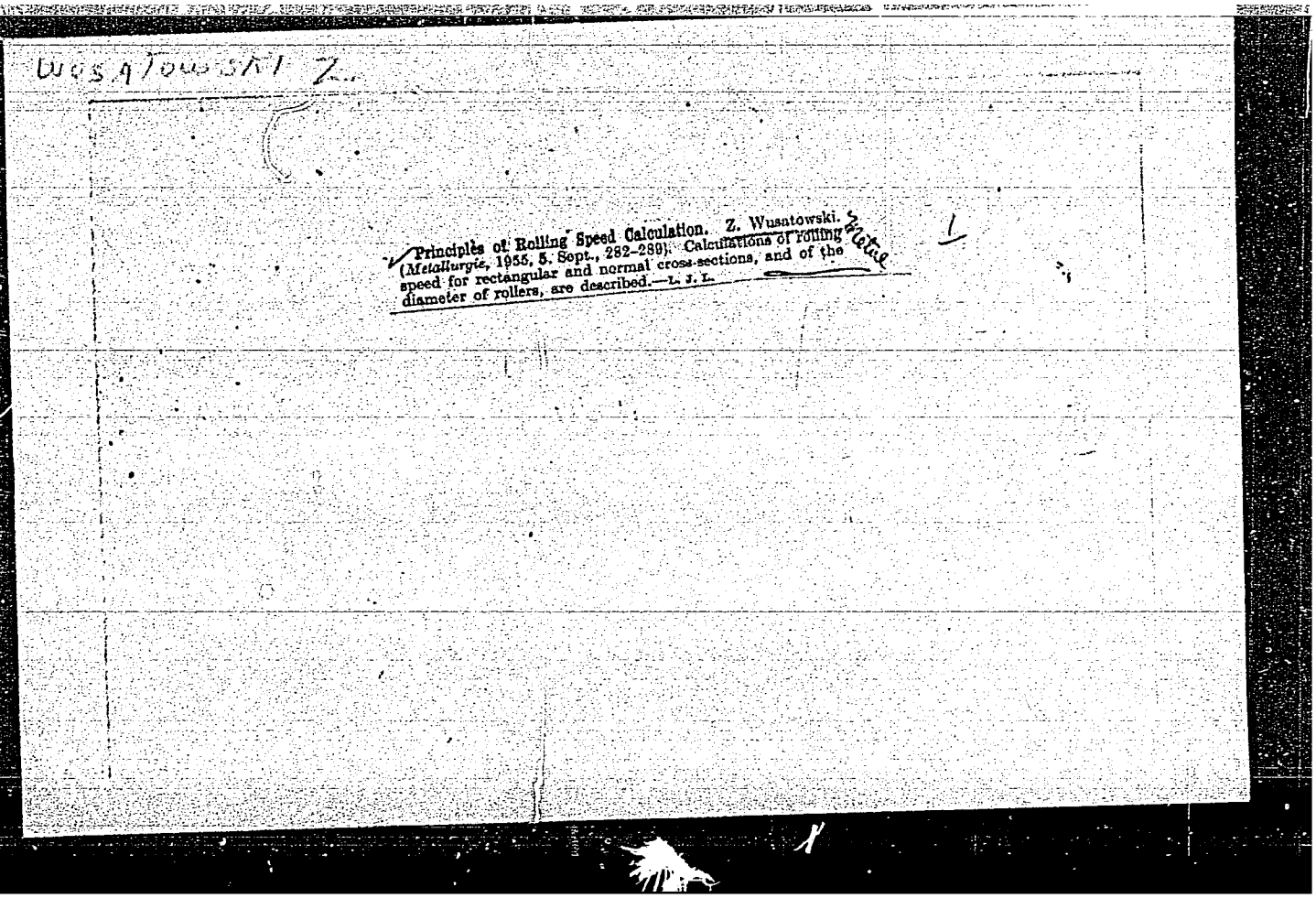
The Use of Slide Rules in the Calculation of Z. Wusatowski
Formulæ. Z. Wusatowski (Przemysł, 1936, 5, 169-171).

POLAND

WUSATOWSKI, Z. and RYTEL, K.

"Analysis of Formulae on Coefficient of Mean Elongation of Profile," Prace Instytutow Ministerstwa Hutnictwa, No. 5-6, Ministry of the Metallurgical Industry, 1955.



WUSATOWSKI Z.

Principles of Rolling Speed Calculation. Z. Wusatowski. (*Metallurgie*, 1955, 5. Sept., 282–289). Calculations of rolling speed for rectangular and normal cross-sections, and of the diameter of rollers, are described.—L. J. L.

WUSATOWSKI,

POLON

13191* Trials to Adapt Metal Flow Formulas to the Roll Pass Design. Próba przystosowanią wzorów płynięcia metalu do kalibrowania walców. (Polish.) Z. Wusatowski and R. Wusatowski. *Prace Instytutów Ministerstwa Hutnictwa*, v. 7, nos. 3-4, 1955, p. 115-123.

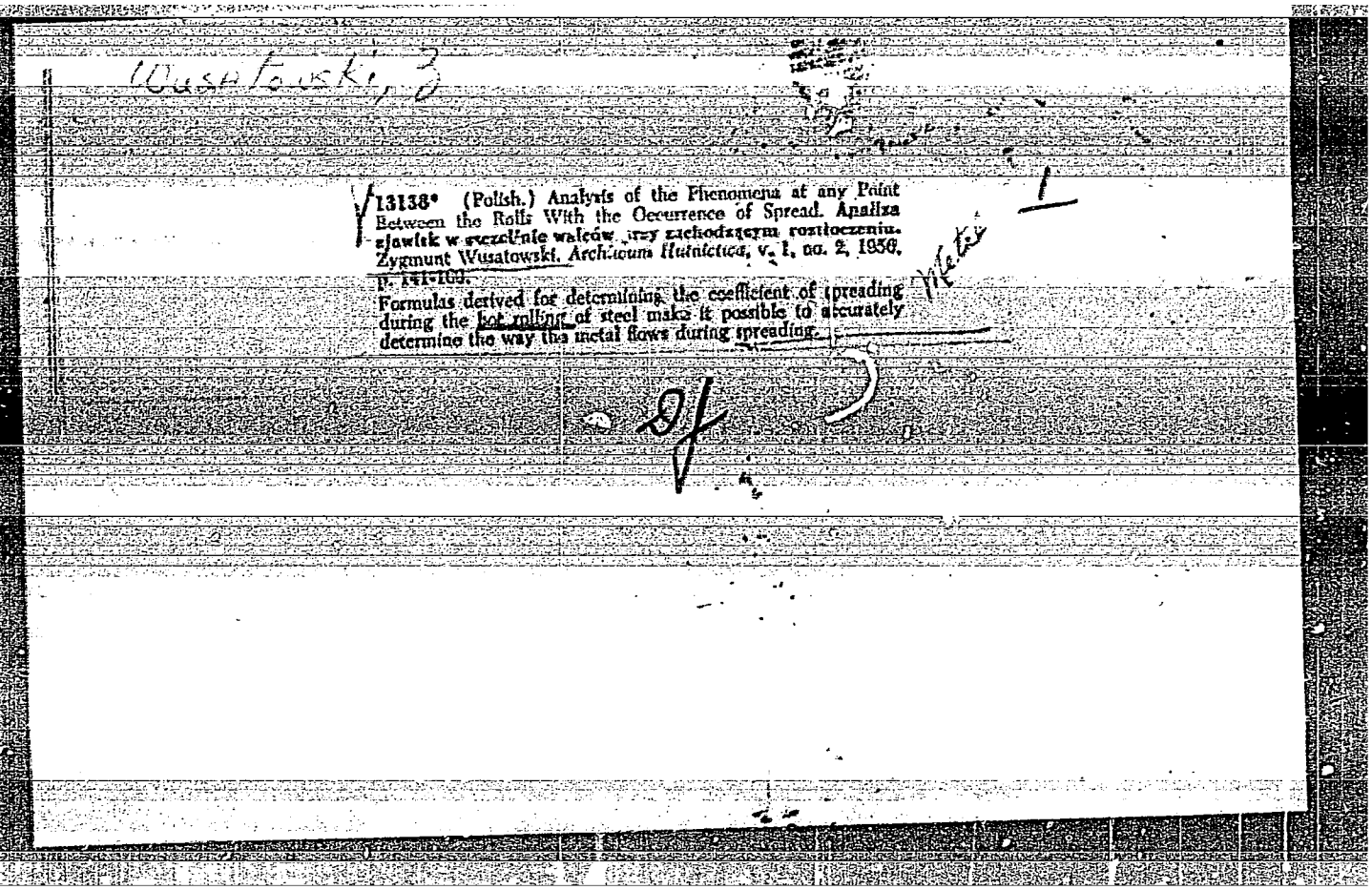
Formula, applicable to alloyed steels, and under varying rolling conditions, made possible by introducing correction coefficients. Modifications of the formula are derived for calculating irregular sections. Diagrams, nomograms. 11 ref.

WUSATOWSKI, ZYGMUNT

4

15107* Up-To-Date Installations for the Annealing of Narrow Strips. Nowoczesne urządzenia do wyżarzania taśm wąskich. (Polish.) Zygmunt Wusatowski. *Hutnik*, v. 22, nos. 7-8, 1955, p. 258-265.

Use of bell-type and shaft furnaces; bell-type heated electrically; continuous-process normalization and annealing; induction heating. Diagrams. 15 ref.



Wusatowski, Z

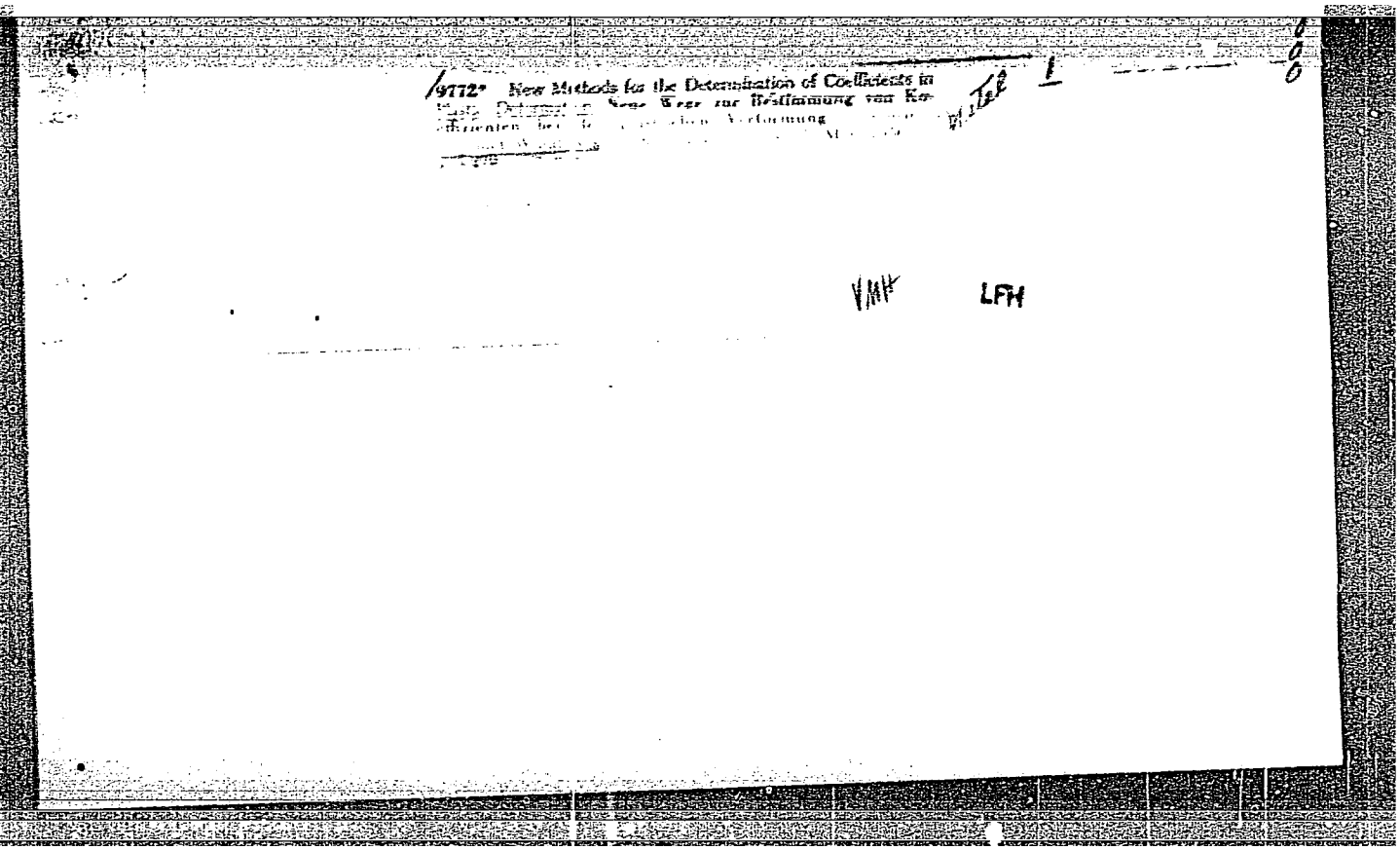
13138* (Polish.) Analysis of the Phenomena at any Point Between the Rolls With the Occurrence of Spread. Analiza zjawisk w szczelinie walców przy szerokoscym rozpoczeniu. Zygmunt Wusatowski. *Archiwum Hutnictwa*, v. 1, no. 2, 1956, p. 141-169.

Formulas derived for determining the coefficient of spreading during the hot rolling of steel make it possible to accurately determine the way the metal flows during spreading.

WUSATOWSKI, Z.

An attempt to determine the proper value of stress at the yield point during a three axised plastic deformation. p. 283.
(Archiwum Hutnictwa, Warszawa, Vol. 1, no. 4, 1956.)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 7, July 1957.Uncl.



WUSATOWSKI, Zygmunt

Zygmunt Wusatowski, "Analyse der im Walzspalt bei eintretender Breitung vorkommenden Erscheinungen," Neue Huette (Berlin), Yr 1, No 6, May 1956, p. 353.

Trans. of Title: Analysis of the Phenomena Taking Place in the Groove in the Case of Flattening-Out.

The author is affiliated with the Research Institute for Metallurgy, Gliwice. He is referred to in a footnote as a Dr. Ing.

Wusatowski Z

3203* Production of Deep-Drawing Steel Sheets. Blachy karoseryjne ze stali nieuspokojonej. (Polish.) Z. Wusatowski and R. O'Dornel. *Prace Instytutów Ministerstwa Hutnictwa.* [illegible]

Deals with the properties which distinguish autobody sheets of good quality; the factors which influence these properties; special reference to the production technology of steel sheets. Tables, micrographs, diagrams. 16 ref.

(2)

Df

WUSATOWSKI, Zygmund

Category : CZECHOSLOVAKIA/Solid State Physics - Mechanical Properties of Crystals and Polycrystalline Compounds E-9

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 1317

Author : Wusatowski, Zygmund
Title : On New Methods of Expressing the Plastic Deformation

Orig Pub : Hutnicke listy, 1956, 11, No 4, 214-218

Abstract : In the author's opinion, the existing methods for expressing plastic deformation in terms of the relative elongation, the relative compression, and the relative broadening, are incorrect. They can be used only for small deformations (approximately 5%). The author believes that the only correct method of expressing plastic deformations is with the aid of the deformation coefficient (of compression, elongation, and broadening), using the equation $\gamma \cdot \beta \cdot \lambda = 1$. The correctness is confirmed by shop experiments with cold rolling.

Card : 1/1

WUSATOWSKI, Z.; HELLEBRAND, L.

Discussions of Zygmund Wusatowski's article "New Methods of Describing Plastic Deformations." p. 437. HUTNICKE LISTY. (Ministerstvo hutnicho prumyslu a rudnych dolu) Brno. Vol. 11, no. 7, July 1956.

SOURCE: East European Accessions List, Vol. 5, no. 9, September 1956

WLOSATOWSKI, Z.

ARCHIWUM HUTNICTWA
Vol 2, Nr 2, 1957

3

Card 1/2

18

No. Slip Angle and Forward Slip during Rolling with Spread — Z. Wusatowski and Z. Szalajda

On basis of relations for forward slip given in the previous work (7), the authors

(where v_0 is the velocity of the material leaving the rolls and v_w is the peripheral velocity of the rolls). The relation for A has a complicated following form:

$$\left(\frac{A}{\quad}\right)^{\frac{1}{1-\varphi}} = \frac{1-\cos\delta}{\quad} + 1, \qquad (22)$$

h_0 and h_1 — height ... material at entry to rolls and at exit from them.
D — the active d... ter of the rolls.

It is impossible to solve equation (22) in a direct manner and for this reason the

Card 2/2

WUSATOWSKI, Z.; SZALAJDA, Z.
No-Slip Angle and Forward Slip during Rolling with Spread

authors worked out a nomogram, given in fig. 2, to determine the no-slip angle from relation (22).

The authors did not have the opportunity to make direct measurements of the [illegible] tion of the no-slip angle δ on the length of the arc of contact and for this reason they performed many tests, rolling specimens in different conditions, different temperatures and draughts.

The forward slip and coefficients of deformation of the specimen were measured. These data were helpful in determining the real magnitude of the forward slip [illegible]

The authors calculated also the values of the ratio [illegible] depending on the coefficients of spread. In figs. 7 to 13 the measured values of the forward slip are given due to the spread of the specimen for different coefficients of draught and ratio $\frac{b_1}{b_0}$ and subsequently for different temperatures.

Figs. 15 to 17 represent similar functions for the ratio $\frac{\Delta}{}$.

MUSATOWSKI, Z.

The Average Amount of Elongation in Irregular Calibrations.

Z. Musatowski. Acta Metall. 1967 2, Jan 24-36) A theoretical comparison of the various formulae is followed by a general analysis of the formula for the mean elongation and a discussion of rolling samples. The LENDL and PUPPE formulae were found to be inaccurate that of Gorecki was found to be correct

MUSATOWSKI, Zygmunt

Zygmunt Musatowski and Zbigniew Szalajda, "The Flow Partition Angle and Advance During Rolling with Flattening-Out," Neue Huette (Berlin), 2/6, June 1957, pp 367-75.

Received by the editors on 23 Sep 56.

Distr: 4E2b(w)

658.423 : 621.944.8738

6422

Wusatowski Z. Principles of Shape Pass Design.

„Podstawy kalibrowania kształtowników", Archiwum Hutnictwa (PAN), No. 4, Kraków, 1957, pp. 325—378, 14 figs., 7 tabs.

Into the fundamental equations determining the pass design roll as $\lambda_1 \cdot \lambda_2 \cdot \lambda_3 \cdot \lambda_4 \ldots \lambda_n = \frac{F_o}{F_n}$, where λ_i = successive coefficients of elongation, F_o — initial surface and F_n — final surface, the author was able to introduce a new additional equation enabling the calculation of shape pass design. On the basis of J. Górecki's fundamental equation for the passing of metal $F_{z_A} = F_{A_2}\left(\frac{\lambda_A}{\lambda_{fr}} - 1\right) \cdot F_{z_B} = F_{b_2}\left(1 - \frac{\lambda_B}{\lambda_{fr}}\right)$, where F_{A_2} and F_{b_2} — the surface of a part of the shape after a pass (also of the finished profile), the author introduced an equation for the coefficient of spread of a part spreading freely or spreading only partially: $\beta_A = \frac{b_{A_2}}{b_{A_1}} = \lambda_A \frac{W_A}{1 - W_A}$, where b_{A_1} and b_{A_2} — width of part A before and after a pass, W_A — an expenent calculated in a common way. Subsequently, the formulae were adapted for pass design of various cases of shape composed of two or three parts. Finally, the author undertook tests over rolling 7 profiles and compared the shapes obtained with the ones calculated. In all cases, the differences were up to ± 1%.

WUSATOWSKI, Zygmunt

Zygmunt WUSATOWSKI, "Das Walzen von weichem Stahl mit grossen Abnahmen. I. Breitung und Streckung beim Warmwalzen," Berg- und Huettenmaennische Monatshefte, July 1958, p.136ff. Published from Gliwice.

WUSATOWSKI, Zygmunt

Zygmunt WUSATOWSKI, "Warmwalzen von weichem Stahl mit grossen Abnahmen. II. Voreilung und Walzgeschwindingkeit," Berg- und Huettenmaennische Monatshefte, August 1958, p. 153 ff. Published from Gliwice.

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Wusatowski Z., Hoberny B. Elongation and Spread during Hot Rolling of Low Carbon Steels with High Draughts.

„Wydłużenie i rozszerzenie przy walcowaniu na gorąco dużymi gniotami miękkiej stali". Archiwum Hutnictwa (PAN), N. 3, Warszawa, 1958, pp. 161—179, 6 figs., 13 tabs.

Using the equipment of the Iron Metallurgy Institute, experiments were carried out on hot rolling low carbon steels under high draughts from 50 up to 90%. For the experiments cross sections of 20 × 20, 15 × 100 and 10 ×110 mm. were rolled at 900°, 1000° and 1200°C. The tests were performed on a somewhat large scale and simultaneously a series of parameters were measured: elongation, spread, forward slip, the velocity of rolling, pressure and torque of rolling. Metallographic investigations were also conducted in addition to the other investigations. In this work, only a part of the measurements mentioned above were taken into account. Namely the data concerning changes in the width and length, and changes in the thickness which needed to determine the relation of the coefficient of spread and elongation as a function of the draught coefficient: $\beta = \gamma^{-w}$ and $\lambda = \gamma^{(w-1}$. These relations are derived on the basis of a method formerly applied by one of the present authors. The results of these investigations gave very similar relations $\beta = \gamma^{-w_i}, \lambda = \gamma^{(w_i-1)}$, where $W_i = -10^{-3,457} \cdot \varepsilon_w^{0,9676} \cdot \vartheta_w^{i} \left(\varepsilon_w = \frac{h_1}{D}, \vartheta_w = \frac{b_1}{b_1}\right)$, b = width of the steel specimen; h = weight of the steel specimen, D = cross section of the roll. For purposes of verification, the differences between the real width (measured) and those from the relation were calculated. The calculations

Wusatowski 2.

showed that for $\frac{h_1}{h_1} > 2$ the results are satisfactory, but for ratios smaller than 2 the error is relatively great and supplementary tests and investigations appear to be desirable.

WUSATOWSKI, Z.;HODERNY, B.

The flow of metal and structural phenomena during hot-rolling with large drafts. p. 63.

ARCHIWUM HUTNICTWA. (Polska Akademia Nauk. Komitet Hutnictwa) Warszawa, Poland. Vol. 4, no. 1, 1959.

Monthly list of East European Accessions Index (EEAI), LC, Vol. 8, no. 6, June 1959
uncla.

P/039/60/000/009/003/010
A221/A026

AUTHOR: Wusatowski, Zygmunt, Professor, Doctor of Engineering (Gliwice)

TITLE: Tests With High Draft Rolling in the GDR

PERIODICAL: Hutnik, 1960, No. 9, pp. 334 - 338

TEXT: Successful experiments with high draft rolling of soft steel and of steels containing 0.35 and 0.6% of C, carried out at the Instytut Metalurgii Żelaza (Iron Metallurgy Institute) in Gliwice, were described before (Refs. 1 - 8). These experiments were repeated in the GDR by H. Heumann, at the experimental laboratory of the Instytut Kalibrowania przy Szkole Inżynierskiej Walcownizco-Hutniczej (Calibration Institute at the Rolling and Metallurgical Engineering School) in Riesa. These experiments were followed by test rolling in an industrial mill. The object of this test was to establish, whether the output of a rolling mill can be increased by application of a high draft and, consequently, the working staff could be reduced accordingly. The arrangement of the rolling mill in which this test rolling of an iron band was carried out, consisted of two roughing mills and five finishing stands, but the actual rolling was carried out only on two roughing mills and on a No. 5 finishing stand.

Card 1/2

Tests With High Draft Rolling in the GDR

P/039/60/000/009/003/010
A221/A026

The results of these experiments are represented in graphs and tables and are briefly analyzed by the author. In his conclusion the author states, that no superficial cracks or scratches were observed on the rolled iron band, or even on steel containing 0.73% of C. There is no danger of strain hardening of metal because of high draft being applied, provided the normal rolling temperature will be maintained during the rolling on the finishing stand. The wear and tear of rollers was greater, but this can be avoided by using different materials for rollers. The author thinks that at this program of rolling as it was arranged in Riesa, no increase of output was possible, because either the rougher or the finishing stand became a "bottleneck" of the procedure. He further thinks that rolling based on the finishing line of rollers was not a happy choice; application of high draft on the second roughing mill would be more suitable. The metal at this stand is still hot, the rollers have a larger diameter and the motor is more powerful. Such a test would probably prove more efficient. There are 12 sets of figures, 2 tables and 11 references: 9 Polish and 2 German.

Card 2/2

WUSATOWSKI, Zygmunt; KRAWCZYK, Ryszard; KUCHARSKI, Kazimierz

High draught hot rolling of M St 7 steel. Metal i odlew no.7:161-205 '61.

1. Politechnika Slaska, Gliwice.

JASTRZEBSKI, Andrzej; STRUK, Stanislaw; WUSATOWSKI, Zygmunt

Analysis of rolling turbine blades. Archiw hutn 7 no.4:281-304 '62.

WUSATOWSKI, Zygmunt; KUSCHKA, Winfryd

Evaluation of the rolling theory in the light of measurements.
Problemy proj hut maszyn 10 no.11:332-337 N '62.

1. Politechnika Slaska, Gliwice.

WUSATOWSKI, Z.; KUSCHKA, W.

Evaluation of the rolling theory in the light of performed measurements. Archiw hutn 8 no.3:259-280 '63.

ACC NR: AP7003633 SOURCE CODE: PO/0043/66/000/012/0367/0372

AUTHOR: Wusatowski, Zygmunt, (Professor; Doctor of engineering); Starzyczny, Gerard (Master of engineering)

ORG: none

TITLE: Pressforming properties and bending tests of molybdenum sheet

SOURCE: Wiadomosci hutnicze, no. 12, 1966, 367-372

TOPIC TAGS: metalworking, molybdenum, molybdenum sheet, annealing, molybdenum strip spinning, pressforming, Swift test, Erichsen cupping test

ABSTRACT: Tests with the aim of obtaining molybdenum sheet suited for pressforming without causing brittleness and anisotropy, were preformed by selecting proper forging, hot-rolling, and cold-rolling conditions. British molybdenum sheet was used as a standard; Erichsen and Swift cupping tests were employed. The material finally obtained was close in properties to British molybdenum sheet with a deep drawing ratio of 2:1 (height to diameter), and a 730 C maximum annealing temperature. Prolonged annealing and

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ACC NR: AP7003633

quenching temperatures above 1000 C are not recommended due to resultant grain growth (recrystallization) and embrittlement. Orig. art. has: 12 figures, 4 tables, and 2 formulas. [DR]

SUB CODE: 11, 13/SUBM DATE: none/ORIG REF: 003/OTH REF: 003/

Card 2/2

WUSTER, M.

TECHNOLOGY

Periodicals: NORMALIZACJA. Vol. 26, no. 6/7, June/ July 1958

WUSTER, M. International unification of technical terminology. p. 291

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 2, February 1959, Unclass.

WUTGEN, Eugeniusz

Activities of the Geological Institute in the field of prospecting for mineral resources. Przegl geol 8 no.10:512-513 O '60. (EEAI 10:9)

(Poland--Minerals)

WUTCEN, Eugeniusz, doc. mgr. inz.

Geology, the key to the riches hidden in the earth. Horyz techn 16 no.10:12-15 O '63.

1. Zastepca dyrektora Instytutu Geologii, Warszawa.

WUTTKE, G.

Geografia W Szkole - Vol. 7, no. 6, Nov./Dec. 1954.

Toward a geographical workshop. p. 313.

SO: Monthly list of East European Accessions, (EEAL), LC, Vol. 4, No. 9, Sept. 1955 Uncl.

WUTTKE, G

WUTTKE, G.

Importance of lessons on geographical positions in grade 3, p. 30. (GEOGRAFIA W SZKOLE, Warszawa, Vol. 8, no. 1, Jan./Feb. 1955.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 6, Jan. 1955, Uncl.

WUTTKE, G.

WUTTKE, G. Some incorrect terms in teaching geography. p. 320, Vol. 9, no. 6, Nov./Dec. 1956. Warszawa, Poland
Geografia W Szkole

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4--April 1957

WUTTKE, G.

The role of the geographical workshop in teaching geography. p. 135.
(Geografia W Szkole, Vol. 10, No. 3, May/June 1957)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 9, Sept 1957, Uncl.

WUTZEN, E.

"Phosphorites." p.46
(PRZEGLAD GEOLOGICZNY No. 1/2, Jan./Feb. 1954 Warszawa, Poland)

SO: Monthly List of East European Accessions, LC, Vol. 3, no. 5, May 1954/Uncl.

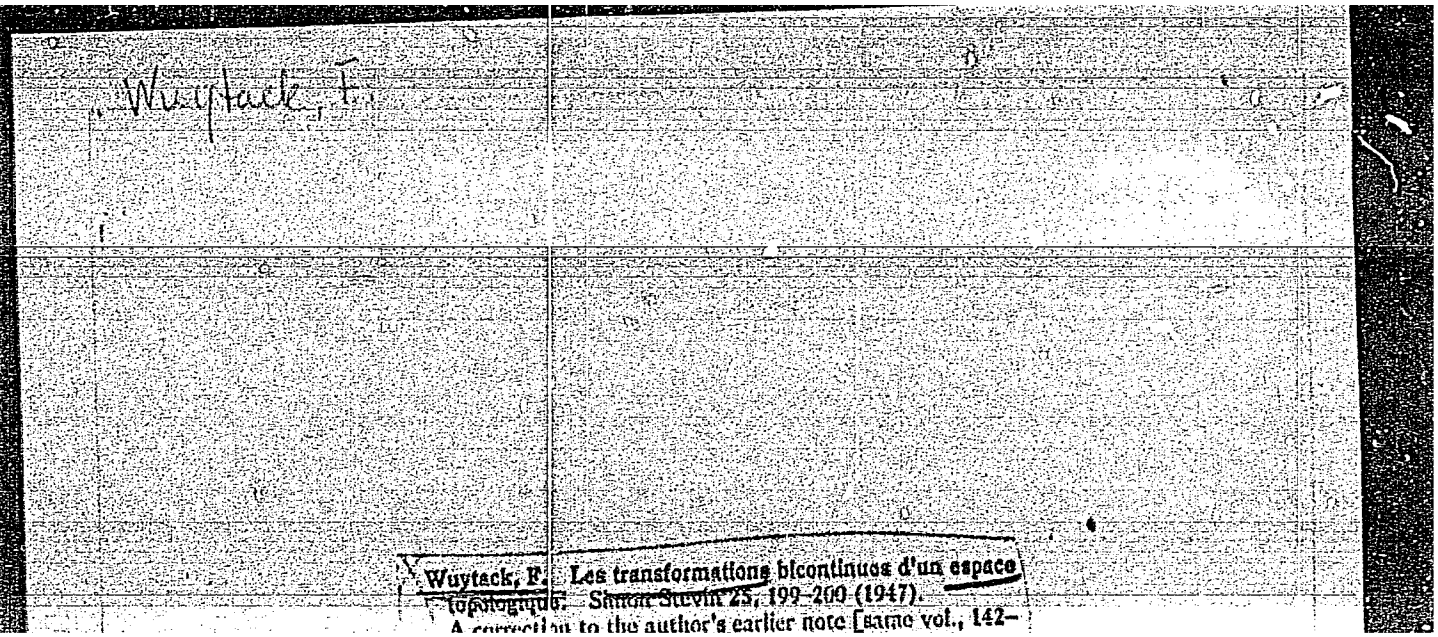
WUTZEN, F.

"New Working Methods of Geologists." p.9
(PRZEGLAD GEOLOGICZNY No. 1/2, Jan./Feb. 1954 Warszawa, Poland)

SO: Monthly List of East European Accessions, LC, Vol. 3, no. 5, May 1954/Uncl.

WUWER, Jan

Prototype of the Wu/58 platform underground trolley locomotive. Wiadom gorn 10 no.6:215-217 Je '59.



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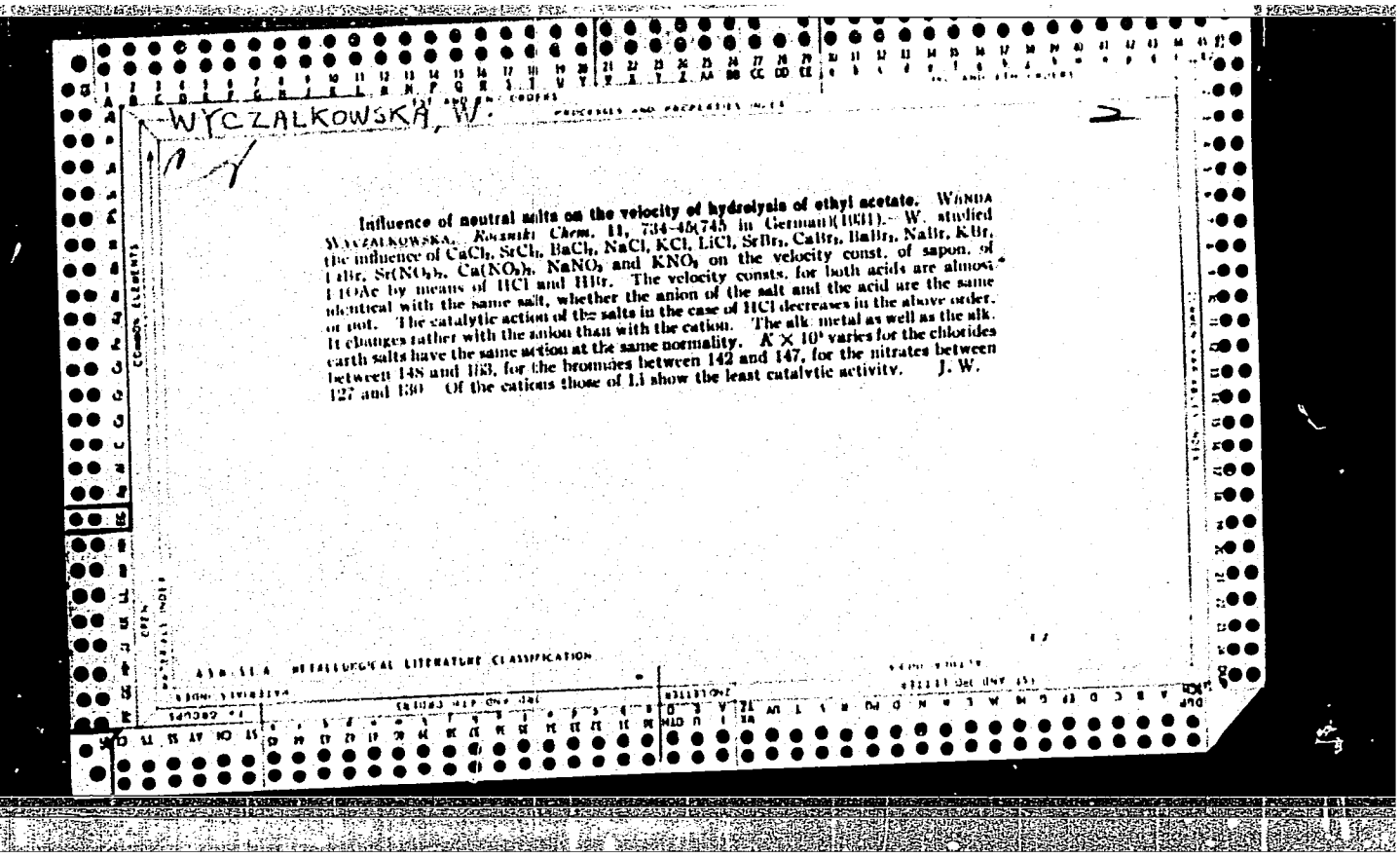

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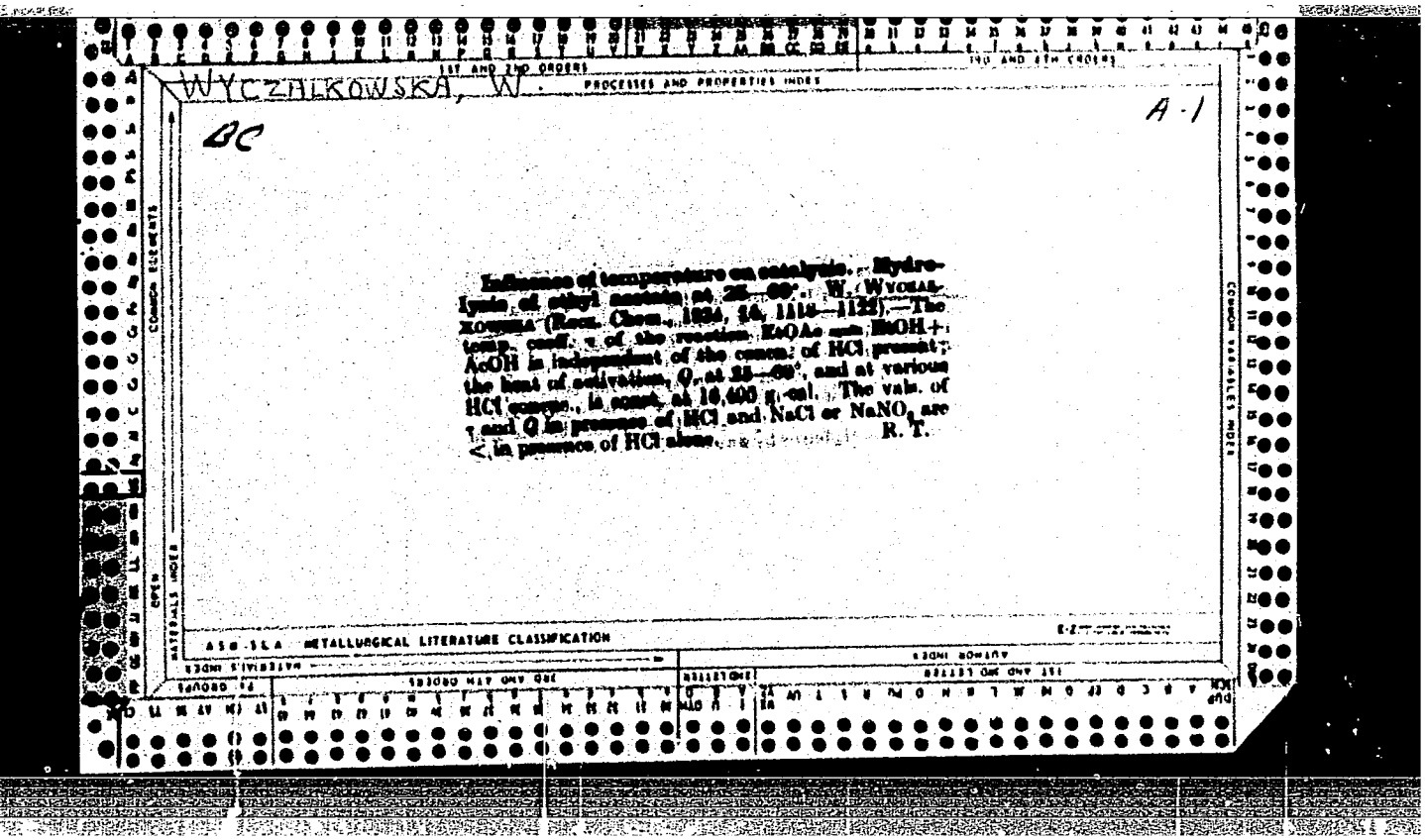
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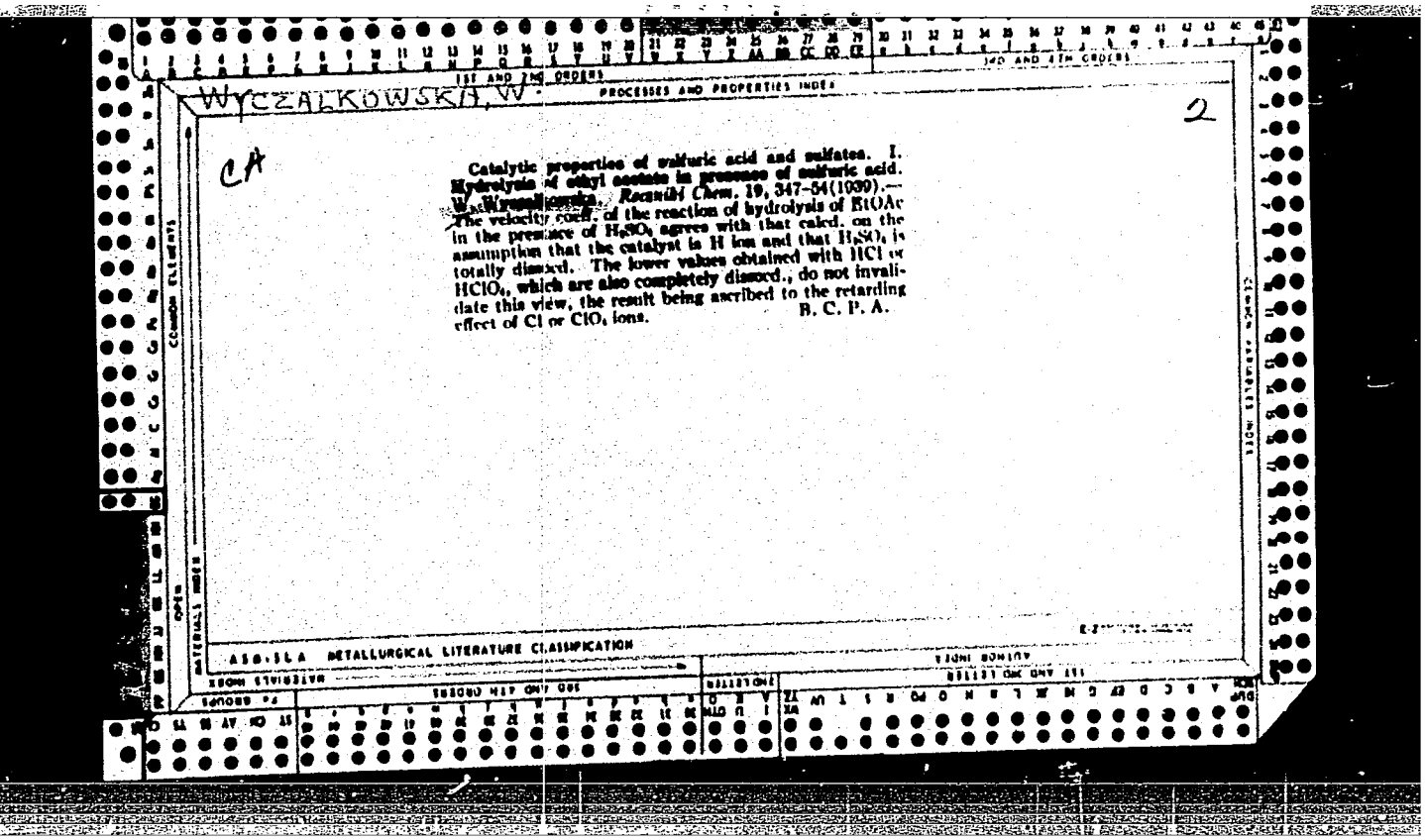

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„Kwasowość stechiometryczna niektórych soków naturalnych miareczkowana konduktometrycznie". Przemysł Spożywczy, No. 1, 1955, pp. 25—28, 7 figs., 0 tabs.

The object of the investigation was to apply conductometric titration to the determination of stechiometric acidity in natural saps, particularly when the saps are strongly coloured and the use of indicators is out of the question. The saps of potatoes, beet, carrot and tomato were conductometrically titrated with LiOH. In all cases, the equivalence-point was found to be sharply and easily determined. For potatoes, the stechiometric acidity was 0.1440-0.0777 n. The corresponding value for beet is 0.05515 n., for carrot 0.03820 n., for tomato 0.07085 n. The titration curves for potato, beet and carrot show that the solution is strongly buffered. The tomato juice shows only slight buffering. A comparative curve of neutralisation executed conductometrically for acetic and ascorbic acid is included.

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Author : Wyczalkowska, W.
Inst : ~~Not given.~~ Katedra Chem. Ogólnej Szkoły Głównej Gospodarstwa Wiejskiego
Title : Conductometric Titration of Mixtures of Weak Acids with the Aid of Hydrochloric Acid.

Orig Pub: Chem. analit., 1957, 2, No 5, 436-443.

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„Wpływ procesu bielenia na charakterystykę jedwabiu wiskozowego". Przem. Włókienniczy. No. 2, 1951, pp. 63–65, 7 tabs

Bleaching with a soda hypochlorite solution containing 0.7 g active chlorine per 1 litre considerably decreases the resistance and elongation of viscose rayon. The use of a solution with 0.23 g active chlorine content and alkalinity 0.1 g NaOH per 1 litre is particularly profitable, effecting no definite decrease in resistance and elongation of fibres and making it possible moreover to obtain a high degree of whiteness. Bleaching with a soda hypochlorite solution raises the copper number of rayon, while lowering its sulphur content. The application, following bleaching, of an additional bath with antichlor did not visibly effect the characteristic properties of rayon. The short process of bleaching with an oxygenated water solution supplies less satisfactory results than treatment with soda hypochlorite, since the rayon produced is distinctly yellow and its resistance and elasticity considerably reduced. Bleaching with a soda hypochlorite solution with addition of Brillantavirol L 162, did not achieve the better results expected.

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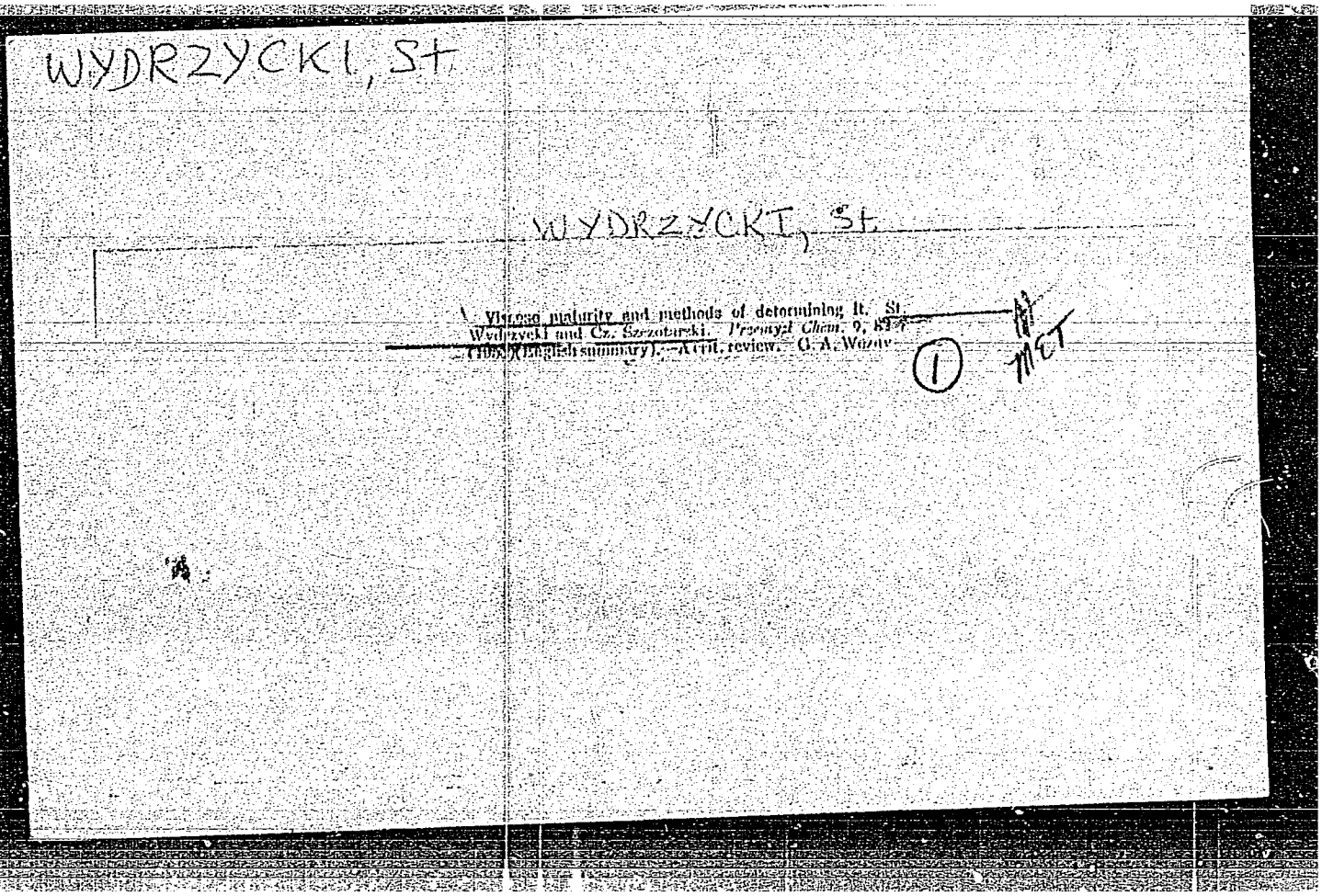

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(GERIATRICS)

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